

ICD-10 General Equivalence Mappings (GEMs)

ICD-9-CM Coordination &
Maintenance Committee

March 11, 2009

Why Do We Need the GEMs?

I-9 and I-10 are different languages

- Codes are the language of healthcare
- As with Spanish and English, ICD-9 and ICD-10 are different languages
 - 30-year generation gap between ICD-9-CM and ICD-10-CM
 - ICD-10 reflects the current understanding and practice of medicine

Why Do We Need the GEMs?

Because Different is Good

- If the differences were not significant, there would be no incentive to change

65100 Twin pregnancy, unspecified as to episode of care

From and to O30009 Twin pregnancy, unspecified, unspecified trimester

From O30019 Twin pregnancy, monoamniotic/monochorionic, unspecified trimester

From O30099 Other twin pregnancy, unspecified trimester

65101 Twin pregnancy, delivered

To O30009 Twin pregnancy, unspecified, unspecified trimester

65103 Twin pregnancy, antepartum condition or complication

From and to O30001 Twin pregnancy, unspecified, first trimester

From and to O30002 Twin pregnancy, unspecified, second trimester

From and to O30003 Twin pregnancy, unspecified, third trimester

From O30011 Twin pregnancy, monoamniotic/monochorionic, first trimester

From O30012 Twin pregnancy, monoamniotic/monochorionic, second trimester

From O30013 Twin pregnancy, monoamniotic/monochorionic, third trimester

From O30091 Other twin pregnancy, first trimester

From O30092 Other twin pregnancy, second trimester

From O30093 Other twin pregnancy, third trimester

Why Do We Need the GEMs?

As a general translation aid

- The GEMs are a general purpose ICD-9/ICD-10 translation dictionary
 - Facilitate translation from ICD-9 to ICD-10
 - Facilitate translation from ICD-10 to ICD-9

82002 Fracture of midcervical section of femur, closed

From S72031A Displaced midcervical fracture of right femur, initial encounter for closed fracture

From S72031G Displaced midcervical fracture of right femur, subsequent encounter for closed fracture with delayed healing

From S72032A Displaced midcervical fracture of left femur, initial encounter for closed fracture

From S72032G Displaced midcervical fracture of left femur, subsequent encounter for closed fracture with delayed healing

From and to S72033A Displaced midcervical fracture of unspecified femur, initial encounter for closed fracture

From S72033G Displaced midcervical fracture of unspecified femur, subsequent encounter for closed fracture with delayed healing

From S72034A Nondisplaced midcervical fracture of right femur, initial encounter for closed fracture

From S72034G Nondisplaced midcervical fracture of right femur, subsequent encounter for closed fracture with delayed healing

From S72035A Nondisplaced midcervical fracture of left femur, initial encounter for closed fracture

From S72035G Nondisplaced midcervical fracture of left femur, subsequent encounter for closed fracture with delayed healing

From and to S72036A Nondisplaced midcervical fracture of unspecified femur, initial encounter for closed fracture

From S72036G Nondisplaced midcervical fracture of unspecified femur, subsequent encounter for closed fracture with delayed healing

Why Do We Need the GEMs?

I-10 is much more specific

- Pertinent clinical detail has been added to ICD-10

82002 Fracture of midcervical section of femur, closed

From S72031A Displaced midcervical fracture of right femur, initial encounter for closed fracture

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From S72035A Nondisplaced midcervical fracture of left femur, initial encounter for closed fracture

From S72035G Nondisplaced midcervical fracture of left femur, subsequent encounter for closed fracture with delayed healing

From S72036A Nondisplaced midcervical fracture of unspecified femur, initial encounter for closed fracture

From S72036G Nondisplaced midcervical fracture of unspecified femur, subsequent encounter for closed fracture with delayed healing

Why Do We Need the GEMs?

For I-9 verbiage not in I-10

- Some distinctions in I-9 have been eliminated

A5483 Gonococcal heart infection

Alternate terms

Gonococcal endocarditis

Gonococcal myocarditis

Gonococcal pericarditis

To 09883 Gonococcal pericarditis

To 09884 Gonococcal endocarditis

To 09885 Other gonococcal heart disease

Why Do We Need the GEMs?

There are new I-10 categories

- I-10 captures types of information not available anywhere in I-9

T500x6A Underdosing of mineralocorticoids and their antagonists, initial encounter

T501x6A Underdosing of loop [high-ceiling] diuretics, initial encounter

T502x6A Underdosing of carbonic-anhydrase inhibitors, benzothiadiazides and other diuretics, initial encounter

T503x6A Underdosing of electrolytic, caloric and water-balance agents, initial encounter

T504x6A Underdosing of drugs affecting uric acid metabolism, initial encounter

T505x6A Underdosing of appetite depressants, initial encounter

T506x6A Underdosing of antidotes and chelating agents, initial encounter

T507x6A Underdosing of analeptics and opioid receptor antagonists, initial encounter

T508x6A Underdosing of diagnostic agents, initial encounter

T50906A Underdosing of unspecified drugs, medicaments and biological substances, initial encounter

T50996A Underdosing of other drugs, medicaments and biological substances, initial encounter

T50A16A Underdosing of pertussis vaccine, including combinations with a pertussis component, initial encounter

T50A26A Underdosing of mixed bacterial vaccines without a pertussis component, initial encounter

T50A96A Underdosing of other bacterial vaccines, initial encounter

T50B16A Underdosing of smallpox vaccines, initial encounter

T50B96A Underdosing of other viral vaccines, initial encounter

T50Z16A Underdosing of immunoglobulin, initial encounter

T50Z96A Underdosing of other vaccines and biological substances, initial encounter

Why Do We Need the GEMs?

Translation can be tricky

- Some concepts expressed by *one I-10 code* need *more than one I-9 code* for a complete translation

0270346 Dilation of Coronary Artery, One Site, Bifurcation, with Drug-eluting Intraluminal Device, Percutaneous Approach

To I9 cluster

0066 Percutaneous transluminal coronary angioplasty [PTCA] or coronary atherectomy

0040 Procedure on single vessel

0045 Insertion of one vascular stent

3607 Insertion Of Drug-Eluting Coronary Artery Stents(S)

0044 Procedure on vessel bifurcation

027034Z Dilation of Coronary Artery, One Site with Drug-eluting Intraluminal Device, Percutaneous Approach

To I9 cluster

0066 Percutaneous transluminal coronary angioplasty [PTCA] or coronary atherectomy

0040 Procedure on single vessel

0045 Insertion of one vascular stent

3607 Insertion Of Drug-Eluting Coronary Artery Stents(S)

What are the GEMs?

Translation reference

- A bi-directional code translation dictionary between ICD-9-CM and ICD-10

E1021 Type 1 diabetes mellitus with diabetic nephropathy

From 25043 Diabetes with renal manifestations, type I [juvenile type], uncontrolled

To I9 cluster

25041 Diabetes with renal manifestations, type I [juvenile type], not stated as uncontrolled

58381 Nephritis and nephropathy, not specified as acute or chronic, in diseases classified elsewhere

E1022 Type 1 diabetes mellitus with diabetic chronic kidney disease

To 25041 Diabetes with renal manifestations, type I [juvenile type], not stated as uncontrolled

E1029 Type 1 diabetes mellitus with other diabetic kidney complication

From and to 25041 Diabetes with renal manifestations, type I [juvenile type], not stated as uncontrolled

What are the GEMs composed of?

Alternatives

- The GEMs give all plausible translation alternatives for the complete meaning of the code being looked up (source system code)
 - Tabular instruction, index entries, guidelines, and applicable Coding Clinic advice

Source	Target	aka
From ICD-9-CM	To ICD-10-CM/PCS	“forward mapping”
From ICD-10-CM/PCS	To ICD-9-CM	“backward mapping”

What are the GEMs composed of?

Alternatives

- When there is only one alternative in a GEM, we can say we have a “one-to-one” translation
 - Does not necessarily mean the codes are identical

S72031A Displaced midcervical fracture of right femur, initial encounter for closed fracture
To 82002 Fracture of midcervical section of femur, closed

What are the GEMs composed of?

Alternatives continued

- There may be multiple translation alternatives for a source system code, all of which are equally plausible
 - The complete meaning of 'Burn' in I-9 includes both:
 - thermal burns (translates to 'Burn' in I-10)
 - chemical burns (translates to 'Corrosion' in I-10)

94223 Blisters with epidermal loss due to burn (second degree) of abdominal wall

From and to T2122xA Burn of second degree of abdominal wall, initial encounter

From and to T2122xD Burn of second degree of abdominal wall, subsequent encounter

From and to T2162xA Corrosion of second degree of abdominal wall, initial encounter

From and to T2162xD Corrosion of second degree of abdominal wall, subsequent encounter

What are the GEMs composed of?

I-9 Clusters

- I-9 cluster: more than one I-9 code is required to equal a complete translation of one I-10 code

E11341 Type 2 diabetes mellitus with severe nonproliferative diabetic retinopathy with macular edema

To I9 cluster

25050 Diabetes with ophthalmic manifestations, type II or unspecified type, not stated as uncontrolled

36206 Severe nonproliferative diabetic retinopathy

36207 Diabetic macular edema

What are the GEMs composed of?

I-10 Clusters

- I-10 cluster: more than one I-10 code is required to equal a complete translation of one I-9 code

4862 Anterior Resection Of Rectum With Synchronous Colostomy

To I10 cluster

0DTP0ZZ Resection of Rectum, Open Approach

or 0DTP4ZZ Resection of Rectum, Percutaneous Endoscopic Approach

or 0DTP7ZZ Resection of Rectum, Via Natural or Artificial Opening

or 0DTP8ZZ Resection of Rectum, Via Natural or Artificial Opening
Endoscopic

AND

or 0D1N0Z4 Bypass Sigmoid Colon to Cutaneous, Open Approach

or 0D1N4Z4 Bypass Sigmoid Colon to Cutaneous, Percutaneous
Endoscopic Approach

or 0D1N8Z4 Bypass Sigmoid Colon to Cutaneous, Via Natural or Artificial
Opening Endoscopic

What are the GEMs composed of?

ICD-9-CM to ICD-10-CM detail

- Source system code 414.01
 - Translation includes the complete meaning of the source system code
 - Translates to a single comparably specific alternative in the ICD-9-CM to ICD-10-CM GEM

41401 Coronary atherosclerosis of native coronary artery

To I2510 Atherosclerotic heart disease of native coronary artery without angina pectoris

What are the GEMs composed of?

ICD-10-CM to ICD-9-CM detail

- Source system code I25.110 contains both underlying cause and acute exacerbation
 - Target system code 414.01 is part of an I-9 cluster in the ICD-10-CM to ICD-9-CM GEM

I25110 Atherosclerotic heart disease of native coronary artery with unstable angina pectoris

To I9 cluster

41401 Coronary atherosclerosis of native coronary artery

4111 Intermediate coronary syndrome

What are the GEMs composed of?

ICD-9-CM to ICD-10-PCS detail

- Source system code 86.59
 - Because I-9 does not specify the anatomic site, all PCS body parts are plausible translation alternatives

8659 Suture Of Skin And Subcutaneous Tissue Of Other Sites

To 0JQ10ZZ Repair Face Subcutaneous Tissue and Fascia, Open Approach

To 0JQ13ZZ Repair Face Subcutaneous Tissue and Fascia, Percutaneous Approach

To 0JQ40ZZ Repair Anterior Neck Subcutaneous Tissue and Fascia, Open Approach

To 0JQ43ZZ Repair Anterior Neck Subcutaneous Tissue and Fascia, Percutaneous Approach

To 0JQ50ZZ Repair Posterior Neck Subcutaneous Tissue and Fascia, Open Approach

To 0JQ53ZZ Repair Posterior Neck Subcutaneous Tissue and Fascia, Percutaneous Approach

To 0JQ60ZZ Repair Chest Subcutaneous Tissue and Fascia, Open Approach

To 0JQ63ZZ Repair Chest Subcutaneous Tissue and Fascia, Percutaneous Approach

To 0JQ70ZZ Repair Back Subcutaneous Tissue and Fascia, Open Approach

To 0JQ73ZZ Repair Back Subcutaneous Tissue and Fascia, Percutaneous Approach

To 0JQ80ZZ Repair Abdomen Subcutaneous Tissue and Fascia, Open Approach

To 0JQ83ZZ Repair Abdomen Subcutaneous Tissue and Fascia, Percutaneous Approach

What are the GEMs composed of?

ICD-10-PCS to ICD-9-CM detail

- Source system code 0JQ60ZZ
 - The more precise PCS code specifies body part and approach
 - Several non-specific I-9 codes are plausible translation alternatives for the PCS root operation Repair

0JQ60ZZ Repair Chest Subcutaneous Tissue and Fascia,
Open Approach
To 8365 Other Suture Of Muscle Or Fascia
To 8389 Other Plastic Operations On Fascia
To 8659 Suture Of Skin And Subcutaneous Tissue Of
Other Sites

How do I read the GEMs?

GEM file format

- Source system code on the left side
- Target system code in the middle
- Flags on the right

T500x1A	9620	10111
T500x1A	E8580	10112
T500x1D	9620	10111
T500x1D	E8580	10112
T500x1S	9090	10111
T500x1S	E9292	10112
T500x2A	9620	10111
T500x2A	E9504	10112
T500x2D	9620	10111
T500x2D	E9504	10112
T500x2S	9090	10111
T500x2S	E959	10112

How do I read the GEMs?

Adding code descriptions

- Import GEM files to a spreadsheet or database, and add code descriptions for readability

T500x1A Poisoning by mineralocorticoids and their antagonists, accidental (unintentional), initial encounter

To I9 cluster

9620 Poisoning by adrenal cortical steroids

E8580 Accidental poisoning by hormones and synthetic substitutes

T500x1D Poisoning by mineralocorticoids and their antagonists, accidental (unintentional), subsequent encounter

To I9 cluster

9620 Poisoning by adrenal cortical steroids

E8580 Accidental poisoning by hormones and synthetic substitutes

T500x1S Poisoning by mineralocorticoids and their antagonists, accidental (unintentional), sequela

To I9 cluster

9090 Late effect of poisoning due to drug, medicinal or biological substance

E9292 Late effects of accidental poisoning

How do I read the GEMs?

Adding code descriptions

- ICD-10-CM code descriptions available on NCHS website
 - <http://www.cdc.gov/nchs/about/otheract/icd9/icd10cm.htm>
- ICD-9-CM and ICD-10-PCS code descriptions available on CMS website
 - ICD-9-CM
 - http://www.cms.hhs.gov/ICD9ProviderDiagnosticCodes/06_codes.asp#TopOfPage
 - ICD-10-PCS
 - http://www.cms.hhs.gov/ICD10/01m_2009_ICD10PCS.asp#TopOfPage

How do I read the GEMs?

Flags

- Read as 1=On, 0=Off
- Three different flags
 - Approximate
 - No Map
 - Combination

<u>PCS</u>	<u>to</u>	<u>I-9</u>	<u>+</u>	<u>flags</u>
02733ZZ	0040	10112		
02733ZZ	0041	10112		
02733ZZ	0042	10112		
02733ZZ	0043	10112		
02733ZZ	0066	10111		
02733ZZ	3609	10000		

How do I read the GEMs?

The Approximate Flag

- Column 1 of the flags
- 1 means the translation is an approximate match
 - the majority of alternatives are considered an approximate match
- 0 means the translation is an identical match
 - rare in the procedure GEMs
 - more common in the diagnosis GEMs

A000 Cholera due to *Vibrio cholerae* 01, biovar cholerae
From and to 0010 Cholera due to *vibrio cholerae*

A001 Cholera due to *Vibrio cholerae* 01, biovar eltor
From and to 0011 Cholera due to *vibrio cholerae* el tor

A009 Cholera, unspecified
From and to 0019 Cholera, unspecified

How do I read the GEMs?

The No Map Flag

- Column 2 of the flags
- 1 means there is *no* plausible translation for the source system code
- 0 means there is at least one plausible translation for the source system code

T500x6A Underdosing of mineralocorticoids and their antagonists, initial encounter
To NoDx

T500x6D Underdosing of mineralocorticoids and their antagonists, subsequent encounter
To NoDx

T500x6S Underdosing of mineralocorticoids and their antagonists, sequela
To NoDx

How do I read the GEMs?

The Combination Flag

- Column 3 of the flags
- 1 means the complete translation of the source system code requires more than one target system code (cluster, aka combination entry)
- 0 means the complete translation of the source system code is satisfied by one of the target system code alternatives (single entry)

ORG2040 Fusion of 2 or more Cervical Vertebral Joints with Internal Fixation Device, Anterior, Open Approach

To 19 cluster

8102 Other Cervical Fusion, Anterior Technique

AND

8162 Fusion Or Refusion Of 2-3 Vertebrae
or 8163 Fusion Or Refusion Of 4-8 Vertebrae

AND

8451 Insertion Of Interbody Spinal Fusion Device

How do I read the GEMs?

Scenario and Choice list

- Columns 4 and 5 of the flags
- Method for organizing combination entries
- Scenario defines all the possible codes in a cluster
- Choice list organizes the codes into pick lists—one code from each list in a scenario is a cluster

T500x1A 9620 10111
T500x1A E8580 10112
T500x1D 9620 10111
T500x1D E8580 10112
T500x1S 9090 10111
T500x1S E9292 10112

T1500xA Foreign body in cornea, unspecified eye, initial encounter
To I9 cluster

9300 Corneal foreign body

E914 Foreign body accidentally entering eye and adnexa

T1500xD Foreign body in cornea, unspecified eye, subsequent encounter

To I9 cluster

9300 Corneal foreign body

E914 Foreign body accidentally entering eye and adnexa

T1500xS Foreign body in cornea, unspecified eye, sequela

To 9085 Late effect of foreign body in orifice

How can I use the GEMs?

Conversion projects

- Convert ICD-9 based applications to native ICD-10 applications

177 Respiratory infections & inflammations w MCC

178 Respiratory infections & inflammations w CC

179 Respiratory infections & inflammations w/o CC/MCC

PRINCIPAL DIAGNOSIS

A0222 Salmonella pneumonia

A065 Amebic lung abscess

A15* Respiratory tuberculosis (7 codes)

A202 Pneumonic plague

A212 Pulmonary tularemia

A221 Pulmonary anthrax

A310 Pulmonary mycobacterial infection

A420 Pulmonary actinomycosis

A430 Pulmonary nocardiosis

A481 Legionnaires' disease

A5272 Syphilis of lung and bronchus

B012 Varicella pneumonia

B052 Measles complicated by pneumonia

How can I use the GEMs?

Conversion projects

- The GEMs facilitate conversion projects of any size and type
 - Large project: I-9 based MS-DRGs being converted to I-10 based MS-DRGs
 - Medium project: ICD-9-CM coding guidelines converted to ICD-10-CM coding guidelines
 - Small project: Convert ICD-9-CM based diabetes case management document to ICD-10-CM

How can I use the GEMs?

Conversion task: find and replace

- Most applications are composed of logical relationships between lists of ICD-9 codes
- Conversion involves “finding” ICD-9 lists embedded in applications and “replacing” the ICD-9 list with an ICD-10 equivalent list
 - *Logic of application unchanged*
 - *Goal is to replicate, not modify*
 - *MS-DRGs conversion uses this process*

How can I use the GEMs?

Application-specific mapping

- Develop an ICD-10 to ICD-9 mapping (aka crosswalk) that allows data submitted in ICD-10 to be processed using ICD-9 based applications
- The ICD-10 Reimbursement Mappings are an application-specific mapping
 - *Interim measure while applications are being converted to a native ICD-10 application*

How can I use the GEMs?

General reference

- Write training material for ICD-10 coding education
- Develop document improvement program for ICD-10 documentation needs
- Mine the GEMs to understand the translation challenges in clinical/coding areas of particular interest to you

41000 Acute myocardial infarction of anterolateral wall, episode of care unspecified

To I2109 ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall

41001 Acute myocardial infarction of anterolateral wall, initial episode of care

To I2109 ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall

41002 Acute myocardial infarction of anterolateral wall, subsequent episode of care

To I2109 ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall

41010 Acute myocardial infarction of other anterior wall, episode of care unspecified

To I2109 ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall

41011 Acute myocardial infarction of other anterior wall, initial episode of care

To I2109 ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall

41012 Acute myocardial infarction of other anterior wall, subsequent episode of care

To I2109 ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall

How can I use the GEMs?

Which GEM to use

- I-10 to I-9 GEM
 - Conversion of application logic containing lists of codes
- I-9 to I-10 GEM
 - Research and forecasting of issues
- Both I-10 to I-9 AND I-9 to I-10 GEMs
 - Small conversion projects with access to clinical detail beyond the codes
 - General education

How can I use the GEMs?

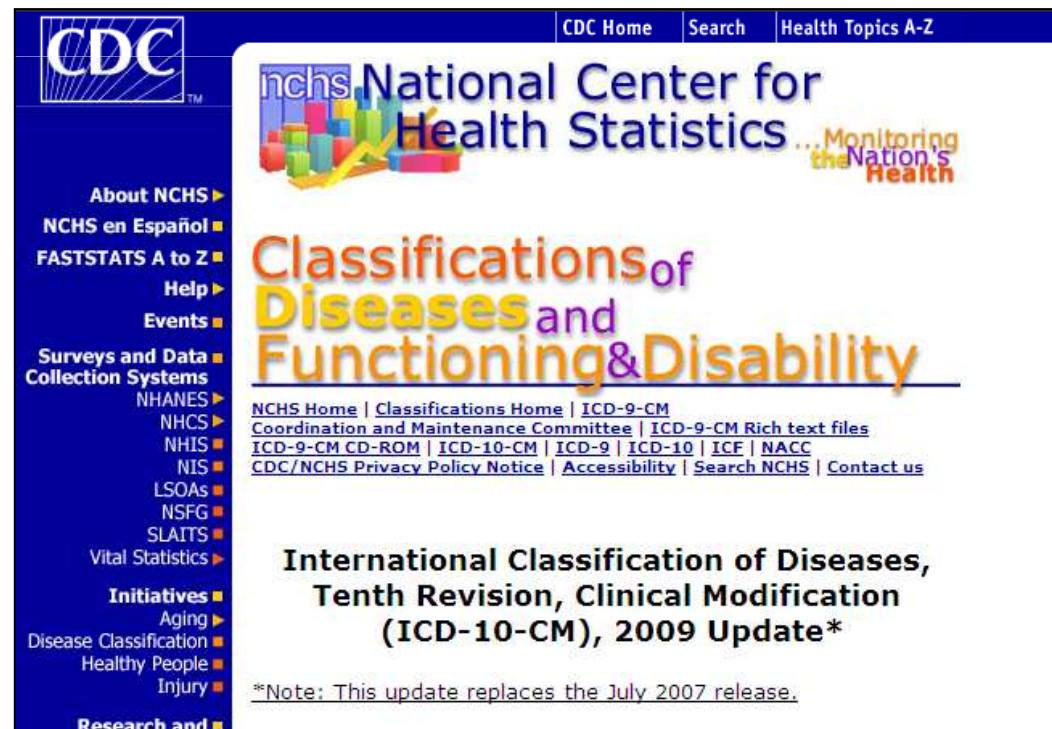
Replication vs. Optimization

- The goal of *replication* is to produce an I-10 based application that produces essentially the same results as the current I-9 based application
 - Translations must be reviewed and finalized, this is not automatic
 - MS-DRGs conversion is an example of replication
- The goal of *optimization* is to produce an I-10 based application that produces optimized results based on the increased detail in I-10
 - Much more complex task
- GEMs can be used for both replication and optimization

Where can I find the GEMs?

Diagnosis codes

- Available on NCHS website at
 - <http://www.cdc.gov/nchs/about/otheract/icd9/icd10cm.htm>
- Also on CMS website at
 - http://www.cms.hhs.gov/ICD10/02m_2009_ICD_10_CM.asp#TopOfPage



Where can I find the GEMs?

Diagnosis GEMs users guide

- Available on NCHS website at
- Also on CMS website at
 - http://www.cms.hhs.gov/ICD10/02m_2009_ICD_10_CM.asp#TopOfPage

I-9 and I-10 Code Sets Compared:
Code Length and Set Size

	ICD-9-CM	ICD-10-CM
# of Characters	3-5 Numeric (+V and E codes)	3-7 Alphanumeric
# of Codes	~13,500	~68,000

As shown in the table above, I-10 codes may be longer, and there are about five times as many of them. Consequently, in an unabridged I-9 to I-10 mapping, each I-9 code is typically linked to more than one I-10 code, because each I-10 code is more specific.

I-10 is much more specific than I-9, and, just as important for purposes of mapping, the level of precision in an I-10 code is more consistent within clinically pertinent ranges of codes. In I-9, on the other hand, the level of detail among code categories varies greatly. For example, category 733, Other disorders of bone and cartilage, contains the codes:

- 733.93 Stress fracture of tibia or fibula
- 733.94 Stress fracture of the metatarsals
- 733.95 Stress fracture of other bone

Where can I find the GEMs?

Procedure codes

- Available on CMS website at
 - http://www.cms.hhs.gov/ICD10/01m_2009_ICD10PCS.asp#TopOfPage

The screenshot displays the CMS website interface. At the top, the HHS.gov logo is on the left, and the tagline "Improving the health, safety and well-being of America" is on the right. Below this is the CMS logo and the text "Centers for Medicare & Medicaid Services". A search bar is located on the right side of the header. A navigation menu is present below the header, with links for Home, Medicare, Medicaid, SCHIP, About CMS, Regulations & Guidance, Research, Statistics, Data & Systems, Outreach & Education, and Tools. Below the navigation menu, there is a secondary menu with links for People with Medicare & Medicaid, Questions, Careers, Newsroom, Contact CMS, Acronyms, Help, Email, and Print. The main content area shows the breadcrumb trail "CMS Home > Medicare > ICD-10 > 2009 ICD-10-PCS". The page is divided into two columns. The left column, titled "ICD-10", contains a list of links: Overview, 2009 ICD-10-PCS (highlighted), 2008 ICD-10-PCS, 2009 ICD-10-CM, 2008 ICD-10-CM, Statute/ Regulations/ Program Instructions, Educational Resources, Announcements and Communications, CMS Sponsored Calls, and ICD-9-CM Coordination and Maintenance Committee Meetings. The right column, titled "2009 ICD-10-PCS", contains a paragraph stating that the 2009 ICD-10-PCS files contain information on the new procedure coding system, ICD-10-PCS, which is being developed as a replacement for ICD-9-CM, Volume 3. Below this paragraph is a section titled "Downloads" with several links: 2009 Version - What's New [PDF, 75KB], 2009 Code Tables and Index [ZIP, 15.7MB], 2009 Mapping - "ICD-10-PCS to ICD-9-CM" and "ICD-9-CM to ICD-10-PCS"; and User Guide, Reimbursement Guide, Diagnosis, and Procedures [ZIP, 1.2MB], 2009 Code Descriptions - Long Format, Table Format and README files [ZIP, 433KB], 2009 Development of the ICD-10 Procedure Coding System (ICD-10-PCS) [PDF, 1.51MB], and 2009 ICD-10-PCS Reference Manual and Slides [ZIP, 3.9MB].

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ICD-10	2009 ICD-10-PCS
<ul style="list-style-type: none">» Overview» 2009 ICD-10-PCS» 2008 ICD-10-PCS» 2009 ICD-10-CM» 2008 ICD-10-CM» Statute/ Regulations/ Program Instructions» Educational Resources» Announcements and Communications» CMS Sponsored Calls» ICD-9-CM Coordination and Maintenance Committee Meetings	<p>The 2009 ICD-10-PCS files below contain information on the new procedure coding system, ICD-10-PCS, that is being developed as a replacement for ICD-9-CM, Volume 3.</p> <p>Downloads</p> <ul style="list-style-type: none">2009 Version - What's New [PDF, 75KB]2009 Code Tables and Index [ZIP, 15.7MB]2009 Mapping - "ICD-10-PCS to ICD-9-CM" and "ICD-9-CM to ICD-10-PCS"; and User Guide, Reimbursement Guide, Diagnosis, and Procedures [ZIP, 1.2MB]2009 Code Descriptions - Long Format, Table Format and README files [ZIP, 433KB]2009 Development of the ICD-10 Procedure Coding System (ICD-10-PCS) [PDF, 1.51MB]2009 ICD-10-PCS Reference Manual and Slides [ZIP, 3.9MB]

Where can I find the GEMs?

Procedure GEMs users guide

- Available on CMS website at
 - http://www.cms.hhs.gov/ICD10/01m_2009_ICD10PCS.asp#TopOfPage

The screenshot shows a web application interface for the GEMs user guide. On the left is a vertical sidebar with buttons for 'Comments', 'Attachments', 'Pages', 'Layers', 'Signatures', and 'Bookmarks'. The main content area is titled 'Step 2: ANALYZE'. It features a yellow diamond-shaped callout box with the text: 'ANALYZE Note any flags applied to the code and understand what they convey about the entry.' To the right of this is a rectangular box containing a series of questions and bullet points: 'Is the "approximate" flag turned on?' followed by a bullet point 'If yes, the correspondence is not a precise equivalent.'; 'Is the "no map" flag turned on?' followed by a bullet point 'If yes, there is no corresponding code in the target system.'; and 'Is the "combination" flag turned on?' followed by a bullet point 'If yes, more than one code in the target system is required to satisfy the meaning of the code in the source system.' Below these boxes, the text reads: 'In the I-9 to PCS GEM, there are three flags:'. This is followed by a list of three flags: 'Approximate' (indicates that the entry is not considered equivalent), 'No Map' (indicates that a code in the source system is not linked to any code in the target system), and 'Combination' (indicates that more than one code in the target system is required to satisfy the full equivalent meaning of a code in the source system). At the bottom, a paragraph states: 'In the PCS to I-9 GEM, the "approximate" and "combination" flags are used. The "no map" flag is not used. All PCS codes are linked to one or more I-9 alternatives.'

Step 2: ANALYZE

ANALYZE
Note any flags applied to the code and understand what they convey about the entry.

Is the "approximate" flag turned on?

- If yes, the correspondence is not a precise equivalent.

Is the "no map" flag turned on?

- If yes, there is no corresponding code in the target system.

Is the "combination" flag turned on?

- If yes, more than one code in the target system is required to satisfy the meaning of the code in the source system.

In the I-9 to PCS GEM, there are three flags:

Approximate indicates that the entry is not considered equivalent

No Map indicates that a code in the source system is not linked to any code in the target system

Combination indicates that more than one code in the target system is required to satisfy the full equivalent meaning of a code in the source system

In the PCS to I-9 GEM, the "approximate" and "combination" flags are used. The "no map" flag is not used. All PCS codes are linked to one or more I-9 alternatives.

What are the Reimbursement Mappings?

GEMs vs. Reimbursement Mappings

- In the GEMs, a single I-10 code can be translated to two or more alternative I-9 translations
 - *I09.89 Other specified rheumatic heart diseases* has two plausible translation alternatives
- The reimbursement mapping contains one I-9 translation alternative chosen for reimbursement purposes, based on frequency data

I0989 Other specified rheumatic heart diseases
To 3971 Rheumatic diseases of pulmonary valve
To 39899 Other rheumatic heart diseases

I0989 Other specified rheumatic heart diseases
To 3971 Rheumatic diseases of pulmonary valve
~~To 39899 Other rheumatic heart diseases~~

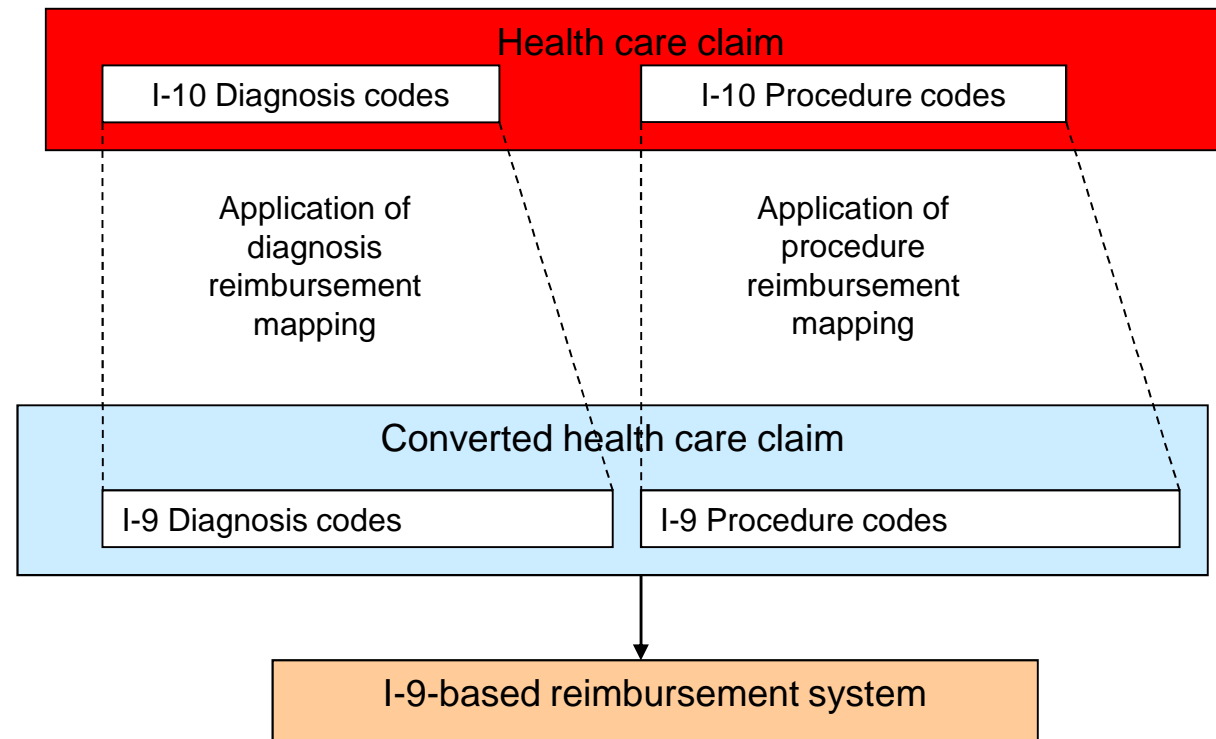
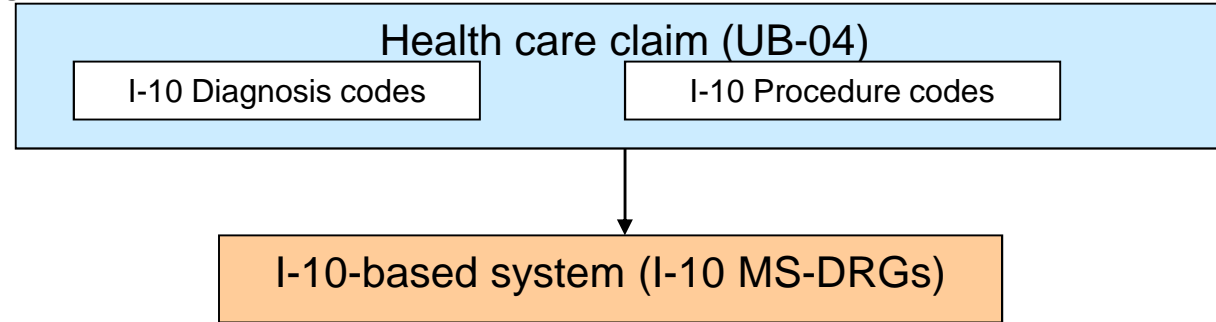
What are the Reimbursement Mappings?

GEMs vs. Reimbursement Mappings

- The GEMs are designed to aid in converting applications and systems from I-9 to I-10
 - General purpose translation aid
 - For “finding and replacing” codes or lists of codes
- The reimbursement mappings are designed to be interposed between data submitted using I-10 codes and legacy systems using I-9 codes, so data can continue to be processed without converting the legacy system to I-10
 - Interim measure while systems are being converted

What are the Reimbursement Mappings?

System conversion vs. Crosswalk



What are the Reimbursement Mappings?

Development of the mappings

- Initial translation using the I-10 to I-9 GEM
- Where an I-10 code is translated to one I-9 code, no additional review is necessary
 - 95% of the I-10 codes are translated to a single I-9 code
 - Many I-10 codes are translated to the same I-9 code
- Where an I-10 code is translated to more than one I-9 code, historical I-9 code frequency data are used to determine the most commonly used I-9 code among the I-9 code alternatives
 - MedPAR and OHSPD (for newborn and OB codes) data were used
 - In the vast majority of cases there is a clear dominant code in terms of frequency
 - In rare cases, clinical review is needed to make the final choice

What are the Reimbursement Mappings?

Development of the mappings

- Because both MedPAR and OHSPD data sets come from hospital admission data, choosing between I-9 alternatives may reflect frequencies more characteristic of inpatient than outpatient data when the two differ
 - Example: complications of pregnancy
 - I-10 does not specify whether the patient delivered during the encounter
 - The reimbursement mapping must choose between I-9 alternatives
 - For inpatient hospital data, the I-9 codes specifying delivery are far more frequent, while in outpatient and physician data, one would expect the I-9 codes specifying antepartum encounter to dominate
- O610 Failed medical induction of labor
 - To 65910 Failed medical or unspecified induction of labor, unspecified as to episode of care
 - To 65911 Failed medical or unspecified induction of labor, delivered
 - To 65913 Failed medical or unspecified induction of labor, antepartum

What are the Reimbursement Mappings?

Development of the mappings

- All I-10 codes with an entry in the GEMs are included
- Each I-10 code is assigned to a single I-9 code or I-9 code cluster
 - I-9 code cluster contains two or more I-9 codes that must be used in combination to attain the complete meaning of one I-10 code

Assigned for reimbursement:

S72.032G Displaced midcervical fracture of left femur, subsequent encounter for closed fracture with delayed healing

is assigned to this I-9 single code:

820.02 Fracture of midcervical section of femur, closed

Assigned for reimbursement:

02733D6 Dilation of Coronary Artery, Four or More Sites, Bifurcation, with Intraluminal Device, Percutaneous Approach

is assigned to this I-9 code cluster:

00.66 [PTCA] or coronary atherectomy

00.43 Procedure on four or more vessels

00.48 Insertion of four or more vascular stents

36.06 Insertion of non-drug eluting coronary stent(s)

00.44 Procedure on vessel bifurcation

What are the Reimbursement Mappings?

I-9 code clusters

- Because one ICD-10-PCS code contains a complete description of the procedure, and one ICD-10-CM code may contain both specification of the underlying disease and a current exacerbation or complication, multiple I-9 codes may be necessary to attain the same level of completeness
 - ~3% of I-10 codes are assigned to an “I-9 code cluster”

E1036 Type 1 diabetes mellitus with diabetic cataract

To I9 cluster

25051 Diabetes with ophthalmic manifestations, type I
[juvenile type], not stated as uncontrolled

36641 Diabetic cataract

What are the Reimbursement Mappings?

Mappings format

- Separate files, not part of the GEM files
 - Two text files, a diagnosis code reimbursement mapping and a procedure code reimbursement mapping
- Seven-character field for I-10 code
- Up to three, five-character fields for I-9 diagnoses
- Up to five, four-character fields for I-9 procedures

Reimbursement Mapping Examples

ICD-10-CM

S72032G

Single I-9 code

82002

ICD-10-PCS

02733D6

I-9 code cluster

0066 0043 0048 3606 0044

How do I use the Reimbursement Mappings?

Reading the File

- ICD-10 code on the left side
- Digit in the middle indicates the number of I-9 codes required for a complete translation
- I-9 code or codes on the right side

S72032D	1	V5413
S72032E	1	V5413
S72032F	1	V5413
S72032G	1	82002
S72032H	1	82012
S72032J	1	82012

Reimbursement Mapping Examples

ICD-10-CM	Single I-9 code
S72032G	82002

ICD-10-PCS	I-9 code cluster
02733D6	0066 0043 0048 3606 0044

0273346	5	0066	0043	0048	3607	0044
027334Z	4	0066	0043	0048	3607	
02733D6	5	0066	0043	0048	3606	0044
02733DZ	4	0066	0043	0048	3606	
02733Z6	3	0066	0043	0044		
02733ZZ	2	0066	0043			

How do I use the Reimbursement Mappings?

Crosswalk to legacy system

- Designed to be interposed between data submitted using I-10 codes and legacy systems using I-9 codes, so data can continue to be processed using the legacy system
 - Interim measure while systems are being converted

S72032A	1	82002
S72032B	1	82012
S72032C	1	82012
S72032D	1	V5413
S72032E	1	V5413
S72032F	1	V5413
S72032G	1	82002
S72032H	1	82012
S72032J	1	82012
S72032K	1	73382
S72032M	1	73382
S72032N	1	73382
S72032P	1	73381
S72032Q	1	73381
S72032R	1	73381
S72032S	1	9053

How do I use the Reimbursement Mappings?

Users Guide

- Describes the purpose, the development, how to use and how to customize the mappings
- Appendix A contains technical file format

Each Reimbursement Mapping record is formatted as follows:

Position	Length	Contents
1	8	I-10 code (3 to 7 characters) left justified in 8-character field. Last character in field is blank.
9	1	Number of I-9 codes this I-10 code maps to. Values 1 through 5.
10	6	First I-9 code (2 to 5 characters) left justified in a 6-character field. Last character in field is blank.
16	6	Second I-9 code (2 to 5 characters) left justified in a 6-character field if I-10 code mapped to two or more I-9 codes. Last character in field is blank.
22	6	Third I-9 code (2 to 5 characters) left justified in a 6-character field if I-10 code mapped to three or more I-9 codes. Last character in field is blank.
28	6	Fourth I-9 code (2 to 5 characters) left justified in a 6-character field if I-10 code mapped to four or more I-9 codes. Last character in field is blank.
34	6	Fifth I-9 code (2 to 5 characters) left justified in a 6-character field if I-10 code mapped to five I-9 codes. Last character in field is blank.

Where do I find the Reimbursement Mappings?

Diagnosis AND Procedure mapping

- Both available on CMS website at
 - http://www.cms.hhs.gov/ICD10/01m_2009_ICD10PCS.asp#TopOfPage

The screenshot shows the CMS website interface. At the top is the HHS.gov logo and the tagline "Improving the health, safety and well-being of America". Below this is the CMS logo and the text "Centers for Medicare & Medicaid Services". A search bar is located on the right. A navigation menu includes links for Home, Medicare, Medicaid, SCHIP, About CMS, Regulations & Guidance, Research, Statistics, Data & Systems, Outreach & Education, and Tools. A secondary menu lists links for People with Medicare & Medicaid, Questions, Careers, Newsroom, Contact CMS, Acronyms, Help, Email, and Print. The main content area shows the breadcrumb trail "CMS Home > Medicare > ICD-10 > 2009 ICD-10-PCS". On the left is a sidebar with a list of links under the "ICD-10" heading, including Overview, 2009 ICD-10-PCS (highlighted), 2008 ICD-10-PCS, 2009 ICD-10-CM, 2008 ICD-10-CM, Statute/ Regulations/ Program Instructions, Educational Resources, Announcements and Communications, CMS Sponsored Calls, and ICD-9-CM Coordination and Maintenance Committee Meetings. The main content area is titled "2009 ICD-10-PCS" and contains a paragraph explaining the new procedure coding system. Below this is a "Downloads" section with several links and file icons: "2009 Version - What's New [PDF, 75KB]", "2009 Code Tables and Index [ZIP, 15.7MB]", "2009 Mapping - 'ICD-10-PCS to ICD-9-CM' and 'ICD-9-CM to ICD-10-PCS'; and User Guide, Reimbursement Guide, Diagnosis, and Procedures [ZIP, 1.2MB]", "2009 Code Descriptions - Long Format, Table Format and README files [ZIP, 433KB]", "2009 Development of the ICD-10 Procedure Coding System (ICD-10-PCS) [PDF, 1.51MB]", and "2009 ICD-10-PCS Reference Manual and Slides [ZIP, 3.9MB]".

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ICD-10	2009 ICD-10-PCS
<ul style="list-style-type: none">» Overview» 2009 ICD-10-PCS» 2008 ICD-10-PCS» 2009 ICD-10-CM» 2008 ICD-10-CM» Statute/ Regulations/ Program Instructions» Educational Resources» Announcements and Communications» CMS Sponsored Calls» ICD-9-CM Coordination and Maintenance Committee Meetings	<p>The 2009 ICD-10-PCS files below contain information on the new procedure coding system, ICD-10-PCS, that is being developed as a replacement for ICD-9-CM, Volume 3.</p> <p>Downloads</p> <ul style="list-style-type: none">2009 Version - What's New [PDF, 75KB] 2009 Code Tables and Index [ZIP, 15.7MB] 2009 Mapping - "ICD-10-PCS to ICD-9-CM" and "ICD-9-CM to ICD-10-PCS"; and User Guide, Reimbursement Guide, Diagnosis, and Procedures [ZIP, 1.2MB] 2009 Code Descriptions - Long Format, Table Format and README files [ZIP, 433KB] 2009 Development of the ICD-10 Procedure Coding System (ICD-10-PCS) [PDF, 1.51MB] 2009 ICD-10-PCS Reference Manual and Slides [ZIP, 3.9MB]